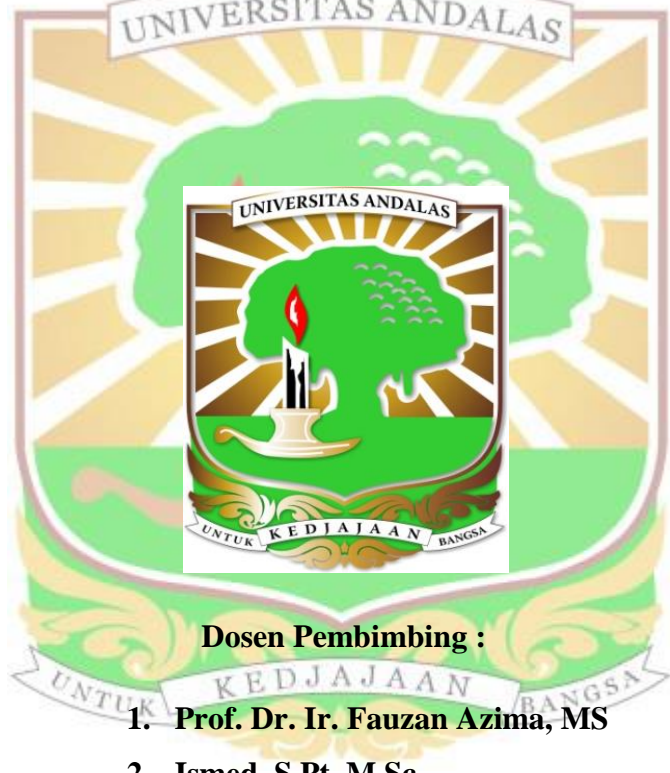


**STUDI PEMBUATAN MINUMAN FUNGSIONAL SINBIOTIK
DARI *PUREE* BENGGUANG (*Pachyrhizus erosus*, L.)**

FRIDA PINTAMI

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Dosen Pembimbing :

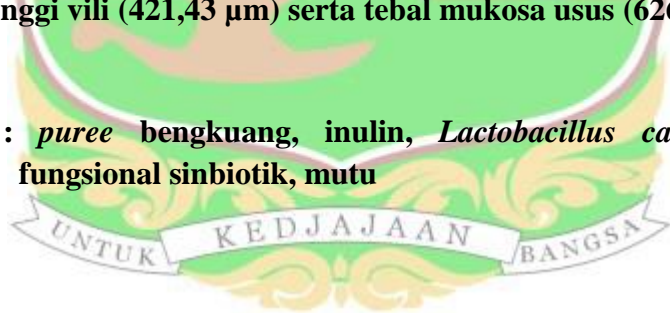
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ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan *puree* bengkuang terhadap karakteristik minuman fungsional sinbiotik yang dihasilkan, mengetahui pengaruh pemberian minuman fungsional sinbiotik terbaik terhadap total bakteri pada saluran pencernaan, berat badan dan organ, tinggi vili serta tebal mukosa mencit percobaan (*Mus musculus*). Penelitian ini dilakukan dengan menggunakan rancangan acak lengkap (RAL). Perlakuan dalam penelitian ini yaitu penambahan *puree* bengkuang (0%,15%,30%, 45% dan 60%) dan 3 kali ulangan. Data dianalisis secara statistik dengan menggunakan *Analysis of Varian* (ANOVA) dan dilanjutkan dengan *Duncan's New Multiple Range Test* (DNMRT) pada taraf 5%. Kemudian penelitian ini dilanjutkan dengan uji *in vivo* yang terdiri dari 3 kelompok perlakuan yaitu perlakuan kontrol, kontrol pembanding dan minuman fungsional sinbiotik *puree* bengkuang perlakuan terbaik. Hasil menunjukkan penambahan *puree* bengkuang berpengaruh terhadap karakteristik minuman fungsional sinbiotik yang dihasilkan. Perlakuan terbaik berdasarkan total bakteri dan uji organoleptik yaitu penambahan *puree* bengkuang 45% (perlakuan D) dengan nilai total bakteri ($6,4 \times 10^{10}$ cfu/ml), total asam tertitrasi (0,58%), pH (5,52), kadar protein (2,77%), warna (3,6), aroma (3,1), rasa (3,3) dan penampakan (3,4). Pemberian minuman fungsional sinbiotik *puree* bengkuang (perlakuan D) pada *Mus musculus* selama 14 hari dapat meningkatkan total bakteri pada usus halus ($5,4 \times 10^8$ cfu/ml), usus besar bagian sekum ($1,2 \times 10^9$ cfu/ml), berat badan (6,2 g) dan berat organ hati, ginjal, limpa dan pankreas (2,28 g, 0,59 g, 0,25 g, dan 0,16 g), tinggi vili (421,43 μ m) serta tebal mukosa usus (626,61 μ m).

Kata kunci : *puree* bengkuang, inulin, *Lactobacillus casei*, minuman fungsional sinbiotik, mutu



ABSTRACT

This research was aimed to know the effect of yam bean puree addition on characteristic of functional synbiotic beverage, to investigate effect of feeding the best treatment of functional synbiotic of yam bean puree to total bacteria in digestive tract, body or organs weight, villus and mucosal thickness of experimental mice (*Mus musculus*). This research used a completely randomized design pattern. The treatments in this research are the addition of yam bean puree (0%, 15%, 30%, 45% and 60%) and three repetition. Data was analyzed by Analysis of Variance (ANOVA) and continued with Duncan's New Multiple Range Test (DNMRT) at 5% significance level. Then this research was continue with *in vivo* assay that consist of three treatment namely control, comparison control and the best treatment of functional synbiotic beverage of yam bean puree. The result showed that the addition of yam bean puree were significantly affected to characteristic of functional synbiotic beverage. The best treatment based on total bacteria and organoleptic was adding 45% yam bean puree (D treatment) with total bacteria (6.4×10^{10} cfu/ml), total lactic acid (0.58%), pH (5.52), protein (2.77%), color (3.6), odor (3.1), taste (3.3) and appearance (3.4). Feeding functional synbiotic beverage of yam bean puree 45% (D treatment) to *Mus musculus* for 14 days increased total bacteria in small intestine (5.4×10^8 cfu/ml) and cecum (1.2×10^9 cfu/ml), body weight (6,2 g) and organ liver, kidney, spleen and pancreas (2.28 g, 0.59 g, 0.25 g, and 0.16 g) and also villus height (421.43 μ m) and mucosal thickness (626.61 μ m).

Keywords : yam bean puree, inulin, *Lactobacillus casei*, functional synbiotic beverage, quality

